

Appln No. 10/731,710

Amdt date March 24, 2006

Reply to Office action of January 27, 2006

REMARKS/ARGUMENTS

This is a response to the Final Action mailed on January 27, 2006. Firstly, applicants want to thank the Examiner for the telephonic interview with the undersigned on March 21, 2006. As discussed in the telephonic interview, the applicants submit that this Office Action should not have been made final. The Examiner stated that Applicant's amendment necessitated new grounds for rejection presented in the previous Office Action. However, claim 1 was amended to include the limitations of claim 12. In other words, claim 1, as amended, was a rewrite of claim 12, in independent form. Consequently, the applicant's amendment to claim 1 could not have necessitated the new grounds for rejection as the limitations of claim 1 were before the Examiner when he issued the first Office Action. As such, the finality of this Office Action is improper and consequently should be withdrawn.

The Examiner rejected claims 1-34 under 35 U.S.C. § 103(a). Claim 1 requires "disposing a metallic liner within said enclosure, said liner having a thickness in the range of 0.005 mm to 3 mm; placing ultra hard material feed stock within said enclosure; and sintering to convert said ultra hard material feed stock to a solid ultra hard material layer." Claim 21 is directed to a method for forming an ultra hard layer comprising providing a refractory metal enclosure, disposing a liner within the enclosure, placing ultra hard material feed stock within the enclosure. Claim 23 is directed to a method for forming an ultra hard material layer comprising providing a refractory metal enclosure, disposing a liner within the enclosure, placing ultra hard material feed stock within the enclosure. Claim 34 is directed to a method for forming an ultra hard layer comprising providing a refractory metal enclosure, disposing a liner within the

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enclosure, and placing ultra hard material feedstock within the enclosure. According to the Examiner, Smith discloses "providing an enclosure comprising a refractory material (18); disposing a metallic liner (16) within said enclosure; placing a hard material (14) comprising a hard material within said metallic liner; and sintering the hard material." The Examiner then relied on Butcher as teaching the dimensions claimed in the rejected claims. However, Smith does not disclose "placing ultra hard material feed stock within said enclosure" as required by claims 1, 21, 23 and 34. Hard material (14) disclosed by Smith is not an ultra hard material. It is well known in the art that an ultra hard material is a material such as diamond or cubic boron nitride. Material 14, disclosed in Smith, is another substrate material such as tungsten carbide (see column 8, lines 4-11) which is a hard material and not an ultra hard material as required by claims 1, 21 and 23. Consequently, the combination of Smith with Butcher as suggested by the Examiner does not disclose, teach or suggest the limitations of claims 1, 21, 23 and 34 and as such can not render such claims obvious.

Claims 2-20, 27 and 28 are directly or indirectly dependent from claim 1. Claims 23 and 29-32 are dependent from claim 21. Claims 24-26 and 33 are dependent from claim 23. As such, applicants submit that claims 2-11, 13-20, 22 and 24-33 are also in condition for allowance over Smith et al. in view of Butcher et al., as being dependent from a base claim allowable over these references and for the additional limitations they contain therein.

Furthermore, neither of the cited references disclose a liner that has a thickness in the range of 0.005 mm to 3 mm as required by claim 1. Nor do they appear to disclose that "during sintering the liner forms a eutectic having a melting temperature and wherein the substrate forms

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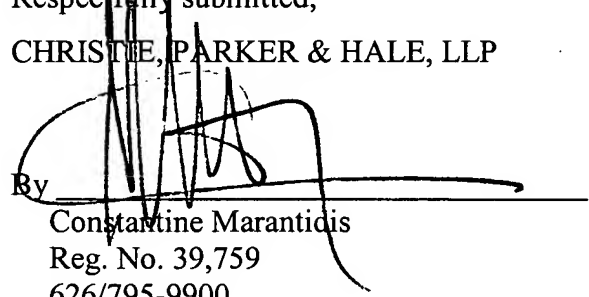
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a eutectic having a melting temperature, wherein the melting temperature of the liner formed eutectic is within 310° C of the substrate formed eutectic" as required by claim 21. Nor do they appear to disclose that "during sintering the liner forms a plastically deformable region for preventing the formation of cracks on the ultra hard material adjacent said plastic deformable region during a cooling phase of said sintering" as required by claim 23. As such, applicants submit that claims 1, 21 and 23 are also allowable over Smith et al. in view of Butcher et al. for these additional reasons.

The rejections to all claims pending in this application are believed to have been overcome and this application is now believed to be in condition for allowance. Should the Examiner have any remaining questions or concerns about the allowability of this application, the Examiner is kindly requested to contact the undersigned attorney to discuss them.

Respectfully submitted,
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